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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/708,760

03/24/2004

Isao Misu

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EXAMINER

SMITH, FRANCIS P

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

09/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/708,760	Applicant(s) MISU ET AL.	
	Examiner Francis P. Smith	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 6, 2008 has been entered.

Response to Arguments/Amendments

2. Amendments to claims 17-18, 25-26, 28, 32, and 36-37 is acknowledged. The rejection with regard to claims 28-38 under 35 USC 112 1st paragraph is withdrawn.

3. Applicant's arguments filed August 6, 2008, with respect to the rejection(s) of claims 17-22 are rejected under 35 U.S.C. 102(b) and claims 23-27 under 35 U.S.C. 103(a) and have been fully considered and are persuasive in view of applicants' amendments. Therefore, the 35 U.S.C. 102(b) and 103(a) rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as per claims 17-38 as outlined below.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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5. Claims 17-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamoto (JP 2001-232289) in view of Michiaki et al. (JP 2001-248645).

Iwamoto teaches applying an oil repellent agent to the bearing component of a hydrodynamic bearing. For claims 17 and 28, Iwamoto discloses supplying the oil repellent agent through a spreading head via supply pipes juxtaposed the predetermined area at equal intervals in a radial direction ([0017], lines 1-6). A removal member is juxtaposed with the predetermined area such that a discharge pathway 17 is formed on the ring-shaped holding member ([0018], lines 9-13). After the application of the solvent, the excess is removed in a variety of ways such as overflowing, physically shaking, and discharging the excess oil repellent from the predetermined area via an exhaust pipe (i.e. removing excess oil repellent from the predetermined area of said component with an oil repellent apparatus) ([0018], lines 9-13). Iwamoto does not expressly state moving/rotating the predetermined area of said component and the supply member relative to one another while the solution of oil repellent is being supplied onto said component.

Michiaki teaches applying an oil repellent agent to a bearing component to prevent the scattering of lubricant. Specifically, Michiaki teaches moving/rotating the predetermined area of said component and supply member relative to one another while the solution of oil repellent is being supplied onto said component (see arrows in fig. 5; [0017]). Therefore, it would have been well within the ordinary skill in the art at the time of the invention to incorporate Michiaki's relative movement/rotation in Iwamoto while supplying/removing the oil repellent in order to achieve the predictable result of

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forming a uniform oil repellent film on the bearing component with the reasonable expectation of success.

For claims 18-21 and 29-31, Iwamoto teaches several modes of oil-repellent removal. Iwamoto discloses a removal member is juxtaposed with the predetermined area such that a discharge pathway is formed on the ring-shaped holding member. For instance, the bearing-component may be dismantled (i.e. relative movement of the predetermined area) from the coating heads by a worker (i.e. a removal means/apparatus) and shaken to automatically coat the bearing (i.e. coating the bearing with oil repellent solution and causing relative movement of the predetermined area while the excess is being removed). Furthermore, the excess is discharged via discharge pathway 17 (i.e. a juxtaposed removal member to remove excess oil repellent before diffusing out of a pre-determined area) and is also removed when the oil-repellent substantially overflows the upper opening of the gap, and thus, removing the excess oil repellent solution as it is being supplied/applied, before solidification. Overall, Iwamoto as a whole teaches excess oil repellent is being removed as the oil repellent is supplied, before the oil repellent solidifies, before the solution diffuses out of the predetermined area, and at the same time the oil repellent solution is being supplied to the predetermined area of said member with the oil repellent supply apparatus ([0015], lines 20-21; [0017], lines 1-18; [0018], lines 9-13).

Addressing claim 32, Iwamoto teaches the oil repellent agent is supplied through outlet 14 while the excess repellent is removed from the predetermined area by discharge pathway 17, which is analogous to directing a solution of oil repellent onto the

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predetermined area at a location upstream of a location from which the oil repellent is removed from the predetermined area. Iwamoto, however, does not disclose rotating the predetermined area.

Michiaki teaches applying an oil repellent agent to a bearing component to prevent the scattering of lubricant. Specifically, Michiaki teaches moving/rotating the predetermined area of said component and supply member relative to one another while the solution of oil repellent is being supplied onto said component (see arrows in fig. 5; [0017]). Therefore, it would have been well within the ordinary skill in the art at the time of the invention to incorporate Michiaki's relative movement/rotation in Iwamoto while supplying/removing the oil repellent in order to achieve the predictable result of forming a uniform oil repellent film on the bearing component with the reasonable expectation of success.

For claims 22 and 33, Iwamoto teaches supplying the oil repellent solution through coating heads (i.e. nozzle) composed of a main body member with a columnar protruding portion which fits with the heteromorphic inner diameter portion of the aforesaid bearing component at a prescribed gap (i.e. supplying oil repellent through a nozzle directed towards and spaced from the predetermined area of said component) ([0009], lines 1-20).

6. Claims 23-24 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamoto (JP 2001232289) and Michiaki et al. (JP 2001-248645) as applied to claims 22 and 28, in view of Jefferson et al. (US 6,056,822).

Iwamoto/Michiaki does not explicitly teach checking whether the nozzle is clogged or removing solidified material from the nozzle.

Jefferson teaches a process for continuously supplying a solution or suspension to a feed composition. Specifically, the system includes an automatic nozzle clean-out system to be applied when nozzles become clogged from solidified additives. An air clean-out line is connected to a plurality of nozzle cleaning devices such that, when subject to air, the nozzle cleaning device thrust a needle into the corresponding nozzle to remove the clogging (e.g. treating the nozzle to remove solidified material from the nozzle) (col. 7, lines 25-42). In addition, an audible or visible alarm is supplied for indicating that the nozzles have become clogged (analogous to checking whether the nozzle is clogged)(col. 7, lines 57-62). Iwamoto and Jefferson are analogous art because they are from the same problem solving area (e.g. coating a substrate). Therefore, it would have been obvious to one skilled in the art at the time of the invention to utilize Jefferson's automatic nozzle clean-out system in Iwamoto/Michiaki's method in order to keep the supply lines free from solidified material that will inevitably slow processing times.

7. Claims 25-26 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamoto (JP 2001232289) and Michiaki et al. (JP 2001-248645) as applied to claims 17 and 28 above, in view of Fujimoto et al. (US 2001/0025890 A1).

Iwamoto/Michiaki teaches discharging the excess oil-repelling agent by a discharge pathway, which is located in the ring-shaped holding member and is designed

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to fit the bearing component at a prescribed gap/recess (e.g. opening is complimentary to at least a portion of the predetermined area of said component) (Iwamoto: figs. 3 and 4, [0015], lines 1-21, [0018], lines 9-13), but does not expressly teach utilizing a suctioning air current.

Fujimoto teaches an apparatus and method for supplying a treatment solution. Specifically, a drain piping is included for draining the treatment solution filtered and a suction step for sucking the treatment solution from the container thereby discharging said solution (e.g. applying a suctioning air current) ([0009]). Iwamoto and Fujimoto are analogous art because they are from the same problem solving area (e.g. supplying a treatment solution onto a substrate). Therefore, it would have been obvious to one skilled in the art at the time of the invention to utilize Fujimoto's suctioning air current feature in Iwamoto/Michiaki's discharge pipes juxtaposed the predetermined area in order to rapidly remove excess solution, thereby reduce processing times.

8. Claims 27 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamoto (JP 2001232289) and Michiaki et al. (JP 2001-248645) as applied to claims 17 and 28 above, in view of Isayama et al. (US 4,050,078).

Iwamoto/Michiaki does not disclose supplying a solvent to remove solidified buildup.

Isayama teaches an automatic nozzle cleaning system for inkjet printers whereby a clogged nozzle will be recognized by an insufficient ink flow rate, triggering the ejection of a solvent to dissolve the deposit. The flow rate of the solvent is also

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detected and is terminated when the solvent flow rate is sufficient, indicating the removal of the blockage (see abstract). Iwamoto and Isayama are analogous art because they are from the same problem solving area (e.g. a deposition process coupled with clog prevention). Therefore, it would have been obvious to one skilled in the art at the time of the invention to utilize Isayama's automatic nozzle cleaning system in Iwamoto/Michiaki's method in order to automatically remove a blockage without significantly hindering the overall process time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis P. Smith whose telephone number is (571) 270-3717. The examiner can normally be reached on Monday through Thursday 7:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mikhail Kornakov can be reached on (571) 272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FPS

/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 1792